



# Maryland's Greenhouse Gas Reduction Plan

*Renewable Energy*



# Climate change is real.

Scientists agree.

*It's happening now.*

*It's harmful and  
human-caused.*

*We can make a  
difference through  
our actions.*

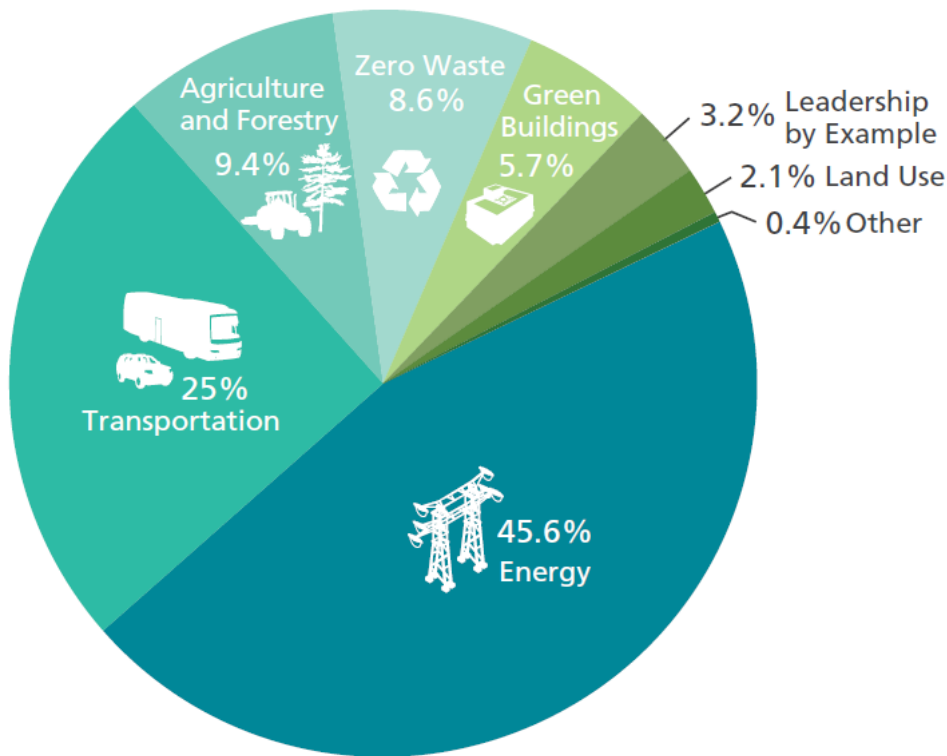




# Renewable Energy

## The Largest Piece of the Puzzle

Percent annual reduction of carbon dioxide-equivalent by sector



Program	Initial Reductions	Enhanced Reductions
Renewable Portfolio Standard	6.86	10.96
EmPOWER Maryland	8.42	10.52
Regional Greenhouse Gas Initiative	0.00	3.60



# The RPS Statute

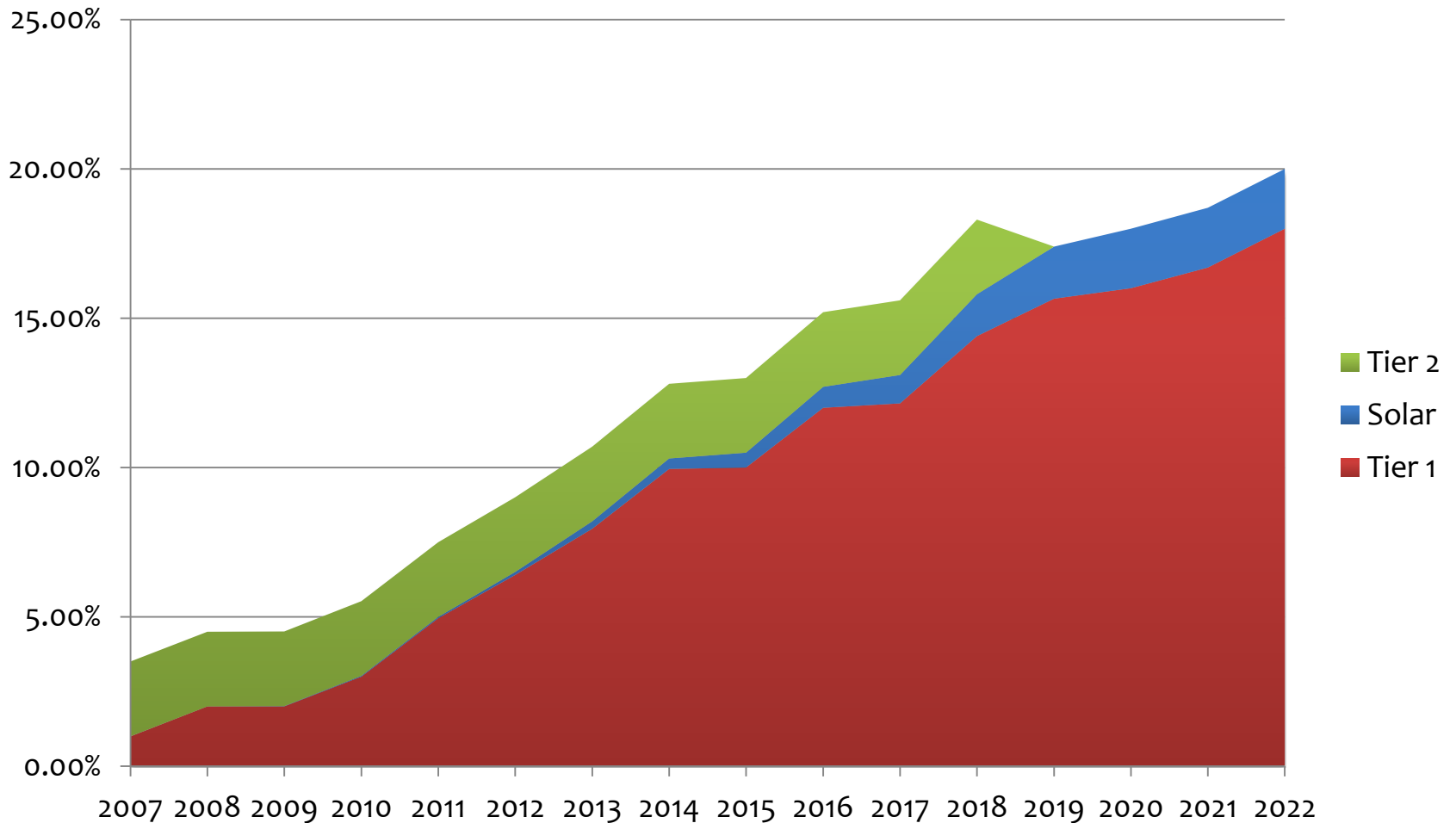
## 20% Renewables By 2022

- Maryland's Renewable Portfolio Standard, expanded substantially by the O'Malley-Brown Administration, requires 20% of all electricity supplied in Maryland to come from renewable sources by 2022.
- Uses Renewable Energy Credits (RECs), representing 1 MWh of renewable electricity, for compliance by electric suppliers operating in the State.



# The RPS Statute

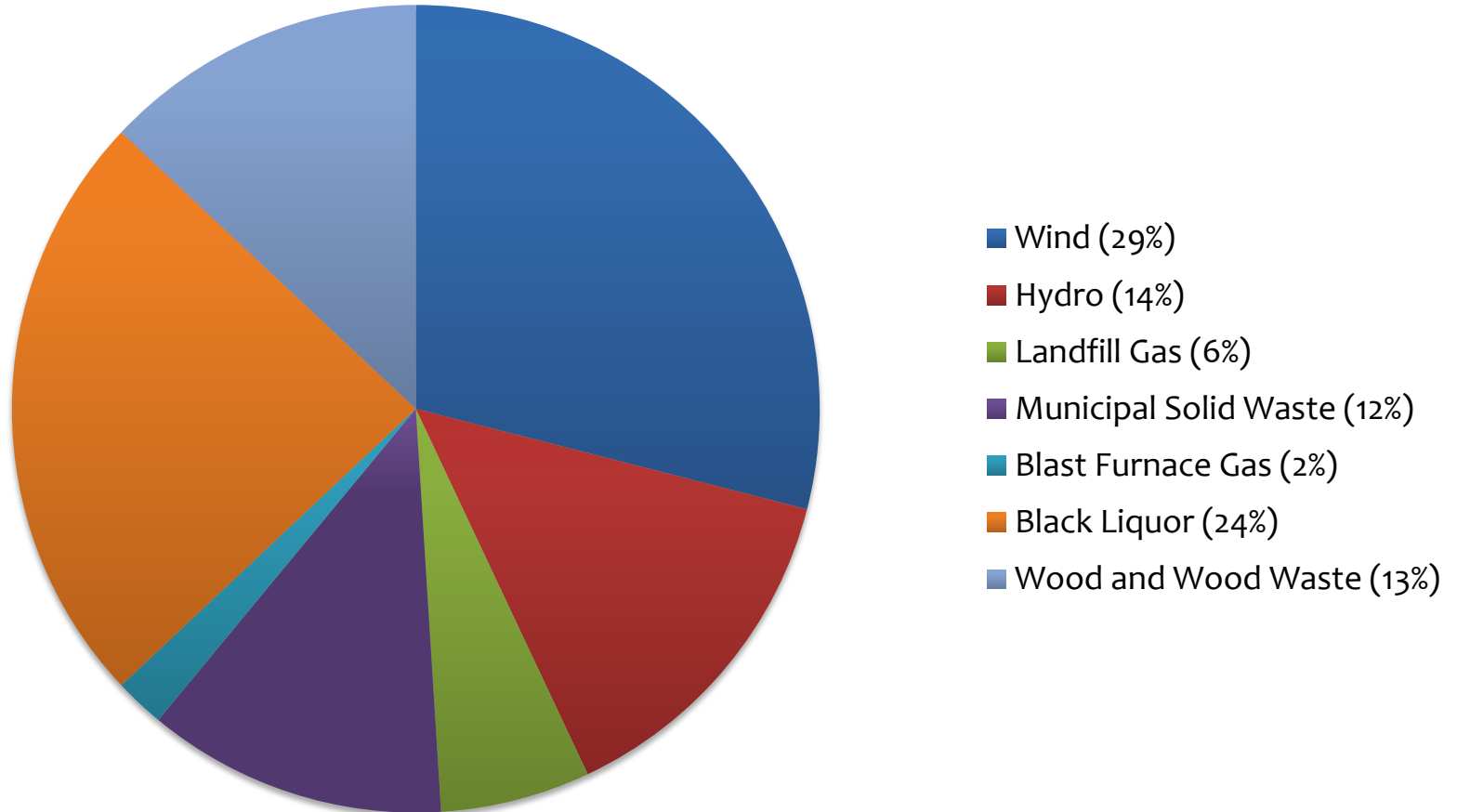
## 20% Renewables By 2022





# The RPS Statute

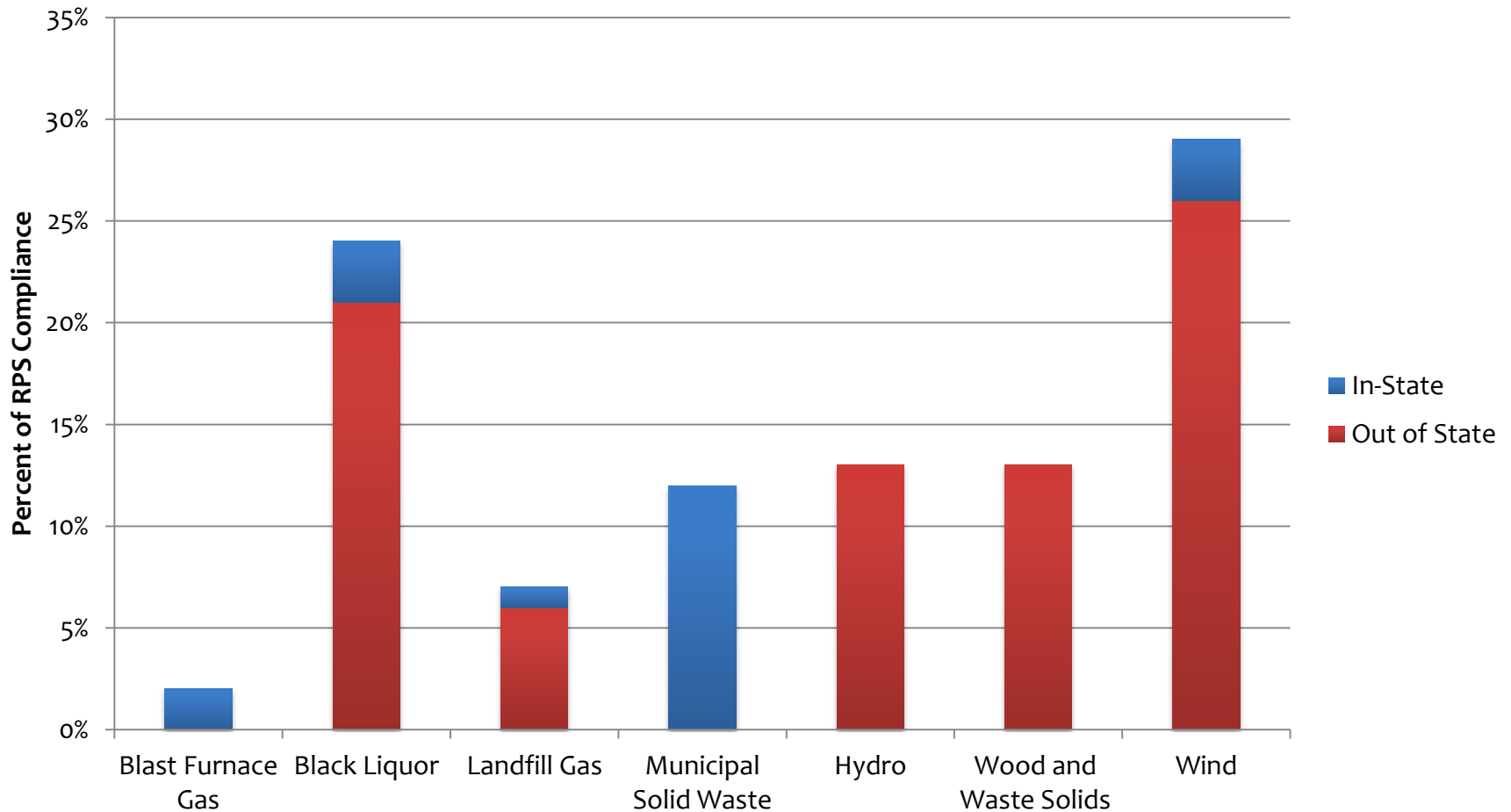
## Tier 1 Compliance by Fuel (2012)





# The RPS Statute

## Tier 1 Compliance by Location (2012)





# Our Strategic Goal

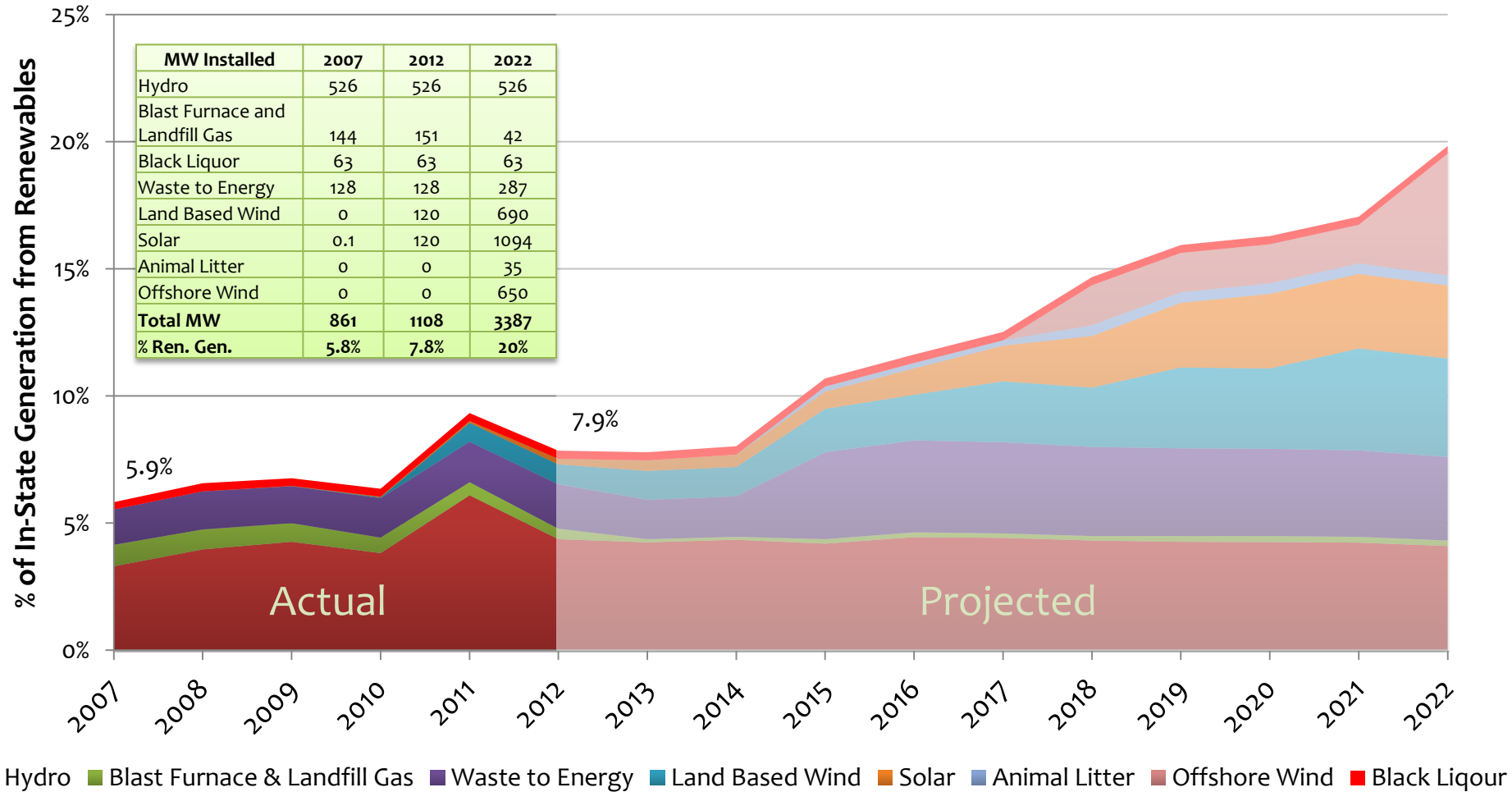
## 20% In-State By 2022

- The O'Malley-Brown Administration has set an internal goal of ensuring that 20% of all in-State electricity generation comes from renewable sources by 2022.
- Ensures the benefits of renewable energy directly touch all Marylanders.





# Our Strategic Goal 20% In-State By 2022

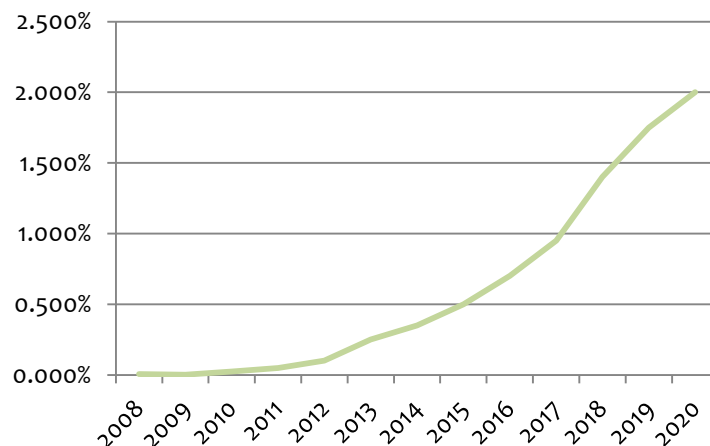




# The RPS Statute

## Solar Carve Out

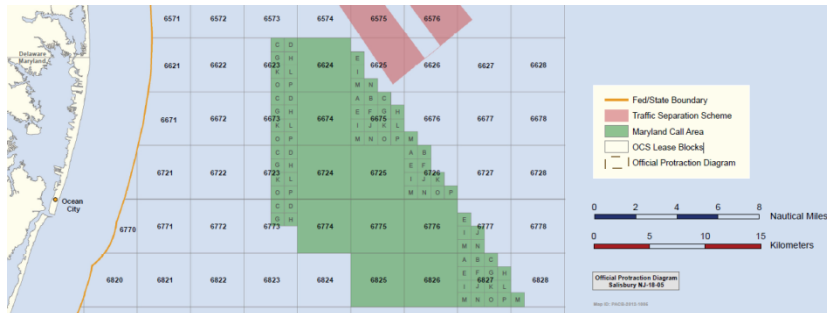
- In 2012, the O'Malley-Brown Administration signed into law legislation accelerating the RPS solar carve out so that 2% of electricity comes from in-State solar by 2020.
- Now we have **144 MW** of solar in Maryland, up from practically nothing in 2007. This has created **2,000 jobs**.
- In 2013, we will derive .25% of our electricity from solar.



# Offshore Wind

## Making it a reality

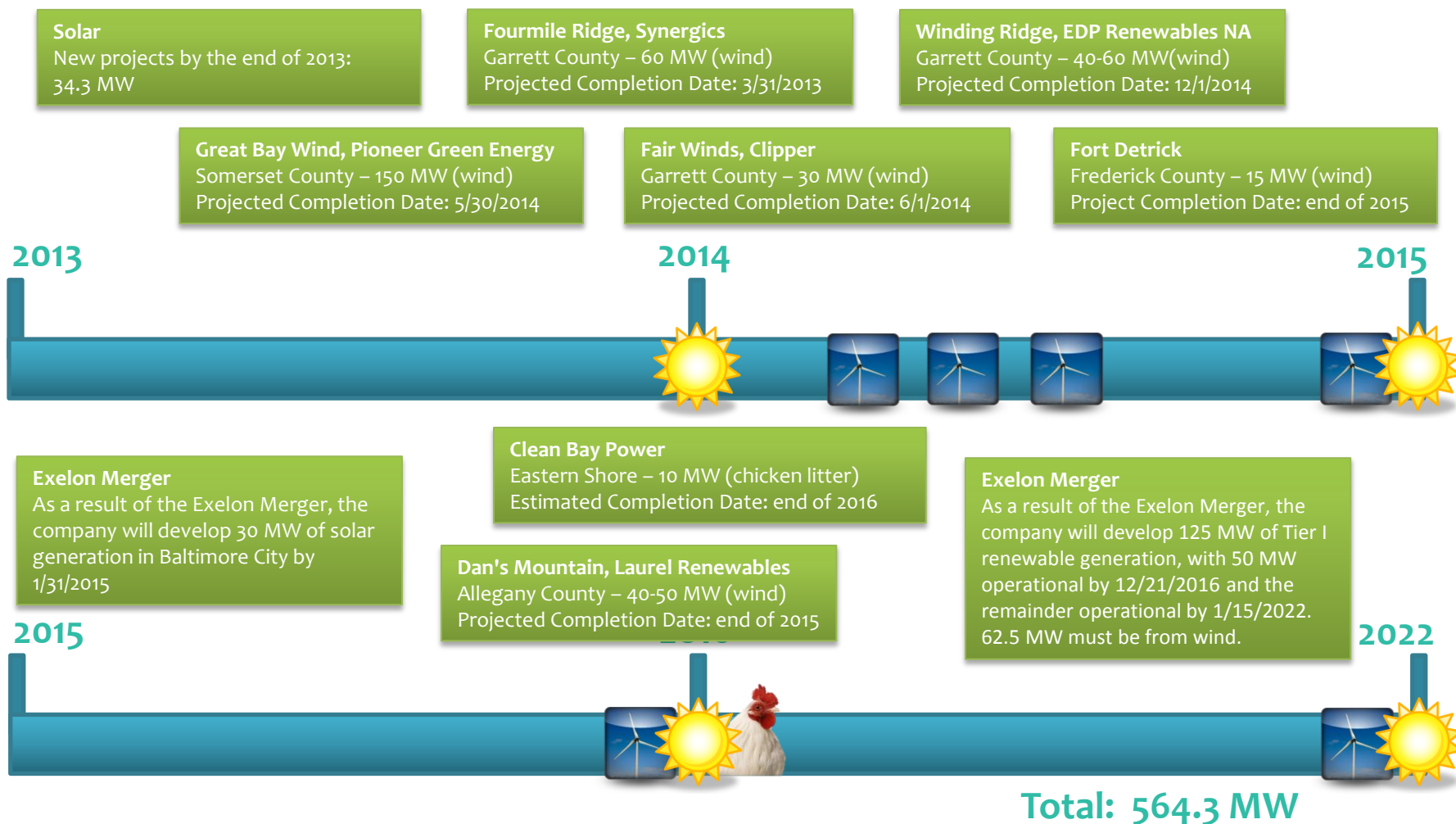
- The O'Malley-Brown Administration signed the Maryland Offshore Wind Energy Act into law in 2013.
- The legislation creates a structure for the development of up to a 500 MW wind farm off the coast of Ocean City.





# Large Projects in the Pipeline

## How are we doing?



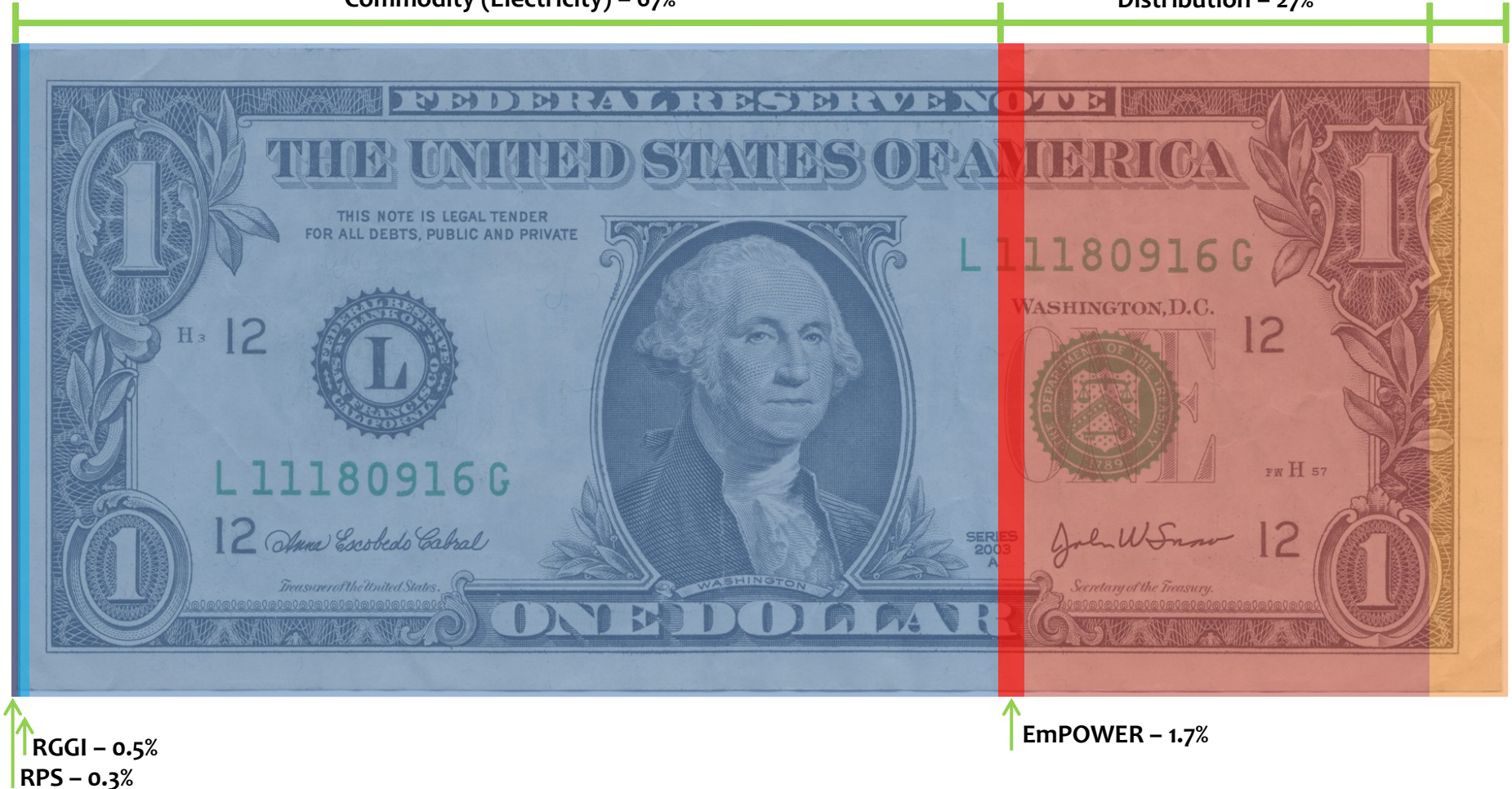


# What does this all cost?

## Our Utility “Bill”

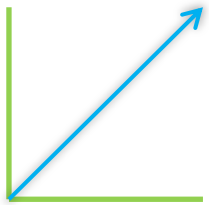
Commodity (Electricity) – 67%

Distribution – 27% Transmission – 6%



# ■ ■ ■ The Plan's Recommendations

## 25% RPS and Remove Black Liquor



**Option 1:** If Maryland moves to a 25% by 2020 RPS, we will reduce emissions by an additional **2.7 MMT**.



**Option 2:** If Maryland removes black liquor and wood waste and solids from the RPS, we will reduce emissions by an additional **1.4 MMT**.



## 25% by 2020 RPS

### How it works

- As currently structured, the RPS will reduce emissions by **6.86 MMT**.
- A 25% by 2020 enhancement would require Maryland to acquire a greater percentage of electricity from renewable energy by 2020.
- Increased renewable generation would displace fossil fuel generation, reducing emissions by an additional **2.7 MMT**.



# Black Liquor and Wood Waste

## How it works

- Combustion of black liquor and wood waste and solids are not carbon neutral, leading to greenhouse gas emissions.
- Removing these fuels from the RPS would allow carbon neutral renewable generation to fill in instead, reducing emissions by an additional **1.4 MMT**.



# Policy Questions

## Charting a Path Forward

- Should we move to a 25% RPS? If so:
  - What should the timeframe be?
  - What technologies (solar, thermal energy, etc.)?
- Should we remove black liquor and wood waste from the RPS? If so, how should we do it?
- What are the ratepayer impacts of these changes?
- What are the economic benefits of these changes to Maryland?
- What additional policies and/or programs should we pursue?

# Let's keep on talking.

We want to hear from you.

*Please submit your thoughts to  
[abigail.hopper@maryland.gov](mailto:abigail.hopper@maryland.gov)*

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difference through  
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# Thank you.